

## REMARKS

Claims 1-9 are in this application.

Claims 1-9 are rejected as under 35 USC 102(b) as being anticipated by Asher, et al. U.S. Patent Number 5,958,780. This is respectfully traversed.

According to U.S. Pat. No. 5,958,780 the concentrations of the first and second markers are measured and compared with a so called "look up table of predetermined values" of additives to identify the liquid. The nature and details of such "look up table" are not disclosed. But due to the fact that the values in the table are predetermined, such embodiment does not result in a secure marking system due to a potential danger of disclosing or discovering the predetermined values. See for example, paragraph iii) on page 2 of the application.

As defined in claim 1 of this application, there is generated random numbers constituting the digital code and this specifies the serial number of marker from the set of markers and multiples of its volume which are used for marking. Claim 1 includes the following language:

generating for each marker to be introduced into a liquid to be marked of a random number, the value of which determines the number of fixed volume portions of the marker to be introduced into the liquid to be marked,

- introducing markers into a liquid to be marked automatically without human involvement
- checking and if necessary adjusting the marking code immediately after the marking is completed, and
- encrypting the marking code identifying the marked liquid.

As explained in the specification and included in the claim, the code is encrypted further to protect the relationship between the code and markers and their concentrations. This encrypted code serves to authenticate the liquid. The decrypting procedure can be carried out only if the user is authorized to do it, and authentication is provided without disclosing knowledge of relationship between the code and the composition of markers. The method of encrypted marking as claimed in this application is much more secure in preventing intended adulteration. Thus, a technical feature of the claimed invention (automatic generation of random numbers constituting the digital code and the further encrypting of this code) enables and achieves a real benefit -to exclude the human factor from the process of encrypting and decrypting and herewith to grant a practically secure marking.

In U.S. Pat. No. 5,958,780 the concentrations of marking additives are defined by the table. When authenticating, the concentrations are measured by optical absorption, and the results are compared with the predetermined values in the table. The accuracy of such verification strongly depends on the absorption spectra of the markers. As optical absorption spectra of the liquids are typically broad, especially for organic dyes (Claim 2 of US. Pat. No. 5,958,780), it is not easy to find out the markers with non-overlapping spectral patterns. Due to that the accuracy of determination of marker concentrations strongly depends on the interference of the absorption properties of the markers. It leads to the shortcomings of the U.S. Pat. No. 5,958,780 due to limitation of the set of markers suitable for the purpose of authentication and the concentration ranges suitable for marking. These shortcomings lead to the narrowing of the diversity of marking specification thus allowing easier adulteration.

The claimed invention, if desired, permits the set of markers to be randomly generated as well as their concentrations initially used for marking. To avoid any undefined influence of the spectral properties of the markers to further authentication, the markers may be read out immediately after the marking process to determine the actual ratios of markers in the marked volume as detected by marker reading system. In case of any interference of the spectral properties, corresponding correction of the code may be performed before encrypting (Page 5, lines 1-2, page 7, line 32-page 8, line 4 and Fig. 2). Such verification procedure after

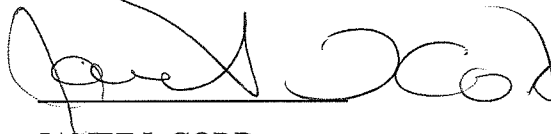
marking increases the reliability of authentication and eliminates possible interference of the spectral properties of the markers to the result of authentication.

Automatic generation of random numbers constituting the digital code is provided to specify the serial number of marker from the set of markers and multiples of its volume which are used for marking. In embodiments of the invention, optical absorption and fluorescence are used **either separately or in combination** to provide secure marking while the cited U.S. Pat. No. 5,958,780 uses only the optical absorption. This feature can also be used to differentiate the claimed invention from U.S. Pat. No. 5,958,780 and enables the following advantages - use of fluorescence versus absorption can provide a substantial decrease in added volumes of markers (down to parts per billion), which is of importance for the applications where any additions to the liquid should not influence its particular properties (e.g. food products). Combination of absorption and fluorescence properties of the markers extends substantially the variety of applicable markers depending on application (on the liquids to be marked).

Anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. *In re Paulsen*, 30 F.3d 1475, 31 USPQ 1671 (Fed. Cir. 1994). For anticipation, there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. *Scripps Clinic & Res. Found. v. Genentech, Inc.*, 927 F.2d 1565, 18 USPQ2d 1001 (Fed. Cir. 1991). Therefore, as each and every element of the claimed invention is not disclosed in US Patent 5,958,780, none of the claims are anticipated, and it is respectfully requested that the rejection be withdrawn.

It is submitted that the application is in condition for allowance and favorable consideration is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Janet I. Cord", written over a horizontal line.

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